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EXAMINER

DAO, THUY CHAN

ART UNIT	PAPER NUMBER
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2192

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/039,035	Applicant(s) WILT ET AL.	
	Examiner Thuy Dao	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/4/02 and 5/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is responsive to the application filed on January 4, 2002.
2. Claims 1-26 have been examined.

Priority

3. The priority date considered for this application is January 4, 2002.

Information Disclosure Statement

4. The Office acknowledges receipt of the Information Disclosure Statement filed on January 4, 2002 and May 14, 2004. It has been placed in the application file and the information referred to therein has been considered by the examiner.

Drawings

5. The drawings are objected to because of minor informalities.

FIG. 3A: block 306 should be bigger to include the word "*Hardware*" in one line.

FIG. 3A: block 606 should be labeled --306-- and should be bigger to include the word "*Hardware*" in one line.

FIG. 5 has unclear text and reference numbers in dark background. Please resubmit FIG. 5 without gray or color background. Otherwise, the scanning process would make the gray or color background totally black or dark.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities: acronyms should be spelled out at the first time or appearance (e.g., page 2: DLL, CLRT; page 6: PDAs, MP3, COM; page 7: LAN, WAN; page 13: XML; page 14: DMA; page 20: FIFOs).

Appropriate correction is required.

7. The use of the trademarks (e.g., page 2: PENTIUM.TM., JAVA.TM.; page 4: DIRECTX.TM.; page 13: .NET.TM.) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections – 35 USC §112, 2nd paragraph

8. Claims 8, 17, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8, 17, and 26:

Claims 8, 17, and 26 recites the limitation "*wherein the compiler comprises*" in line 1. There is insufficient antecedent basis for this limitation in the claim.

The phrase is considered by the Examiner to read as --wherein the intermediate language compiler comprises-- (claim 8) and --wherein the step of compiling uses-- (claims 17 and 26).

Claim Rejections – 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 18-26 are directed to a computer-readable medium, which may include *“modulated data signal such as a carrier wave...”* and *“...Combinations of any of the above should also be included within the scope of computer readable media”* (specification, page 10, lines 21-29).

A computer-readable medium product is a tangible physical article or object, some form of matter, which a signal/carrier wave is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal/carrier wave, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal/carrier wave does not fall within one of the four statutory classes of Sec. 101.

See Annex IV (c) Electro-Magnetic Signals, Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (signed October 26, 2005) - OG Cite: 1300 OG 142. Online version can be retrieved at <<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>>.

Under the principles of compact prosecution, claims 18-26 have been examined as the Examiner anticipates the claims will be amended to obviate these 35 USC § 101 issues. For example, --A computer-readable storage medium....--

Claim Rejections – 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-2, 6-10, 15-19, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (e.g., Background of the Invention, pages 1-2, hereinafter "APA") in view of US Patent No. 6,769,115 to Oldman (hereinafter "Oldman").

Claim 1:

APA discloses a computer system, comprising:

a processor (e.g., page 2: 2-10);

an operating system having a selected driver that interacts with a computing component (e.g., page 1: 7-13);

a plurality of application instructions (e.g., page 1: 27-28), said instructions being in an intermediate language readable by an intermediate language compiler (e.g., page 2: 11-16);

a plurality of runtime instructions, said instructions being in an intermediate language readable by an intermediate language compiler (e.g., page 1: 21-26); and

an intermediate language compiler (e.g., page 2: 11-17).

APA does not explicitly disclose [said intermediate language compiler] compiles the application instructions and the runtime instructions into instructions executable by the processor for interacting with the selected driver.

However, in an analogous art, Oldman discloses *[said intermediate language compiler] compiles the application instructions and the runtime instructions into instructions executable by the processor for interacting with the selected driver* (e.g., FIG. 3, compiling Application Source 103 and Adl Headers 105 and Libraries 106 into Application Binary 107(a-c), and related text in col.6: 50 – col.7: 9).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Oldman into that of APA. One

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would have been motivated to do so to improve the program development environment in which a program which is to execute on a plurality of platforms can be developed as suggested by Oldman (e.g., col.3: 1-41).

Claim 2:

The rejection of claim 1 is incorporated. APA also discloses *the selected driver comprises a plurality of intermediate language instructions* (e.g., page 2: 24-26).

Claim 6:

The rejection of claim 1 is incorporated. Oldman further discloses *the plurality of application instructions and the plurality of runtime instructions are delivered to the computer system over a network* (e.g., FIG. 3, Application Source 103, Adl Headers 105, and Libraries 106 are sent to different computer systems 319(a-c)).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Oldman into that of APA. One would have been motivated to do so as set forth above.

Claim 7:

The rejection of claim 2 is incorporated. Oldman further discloses *the selected driver is delivered over a network* (e.g., FIG. 8, OS Headers and Libraries 303(a-c) are sent to different computer system 319(a-c)).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Oldman into that of APA. One would have been motivated to do so as set forth above.

Claim 8:

The rejection of claim 1 is incorporated. APA also discloses *the compiler comprises a Just-In-Time compiler* (e.g., page 2: 11-17).

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Claim 9:

Claim 9 is a method version, which recites the same limitations as those of the claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claim 9.

Claim 10:

The rejection of claim 9 is incorporated. APA discloses *providing a driver program in an intermediate programming language* as set forth in claim 2 (e.g., page 2: 24-26) but does not explicitly disclose *the driver program is compiled with the application program and the runtime program into the single executable program*.

However, Oldman discloses *the driver program is compiled with the application program and the runtime program into the single executable program* (e.g., FIG. 8, blocks 103, 105, 106, and 303(a-c) are compiled into Application Binary 113(a-c), respectively).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Oldman into that of APA. One would have been motivated to do so as set forth above.

Claims 15-17:

Claims 15-17 are method versions, which recite the same limitations as those of the claims 6-8, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claims 15-17.

Claims 18-19 and 24-26:

Claims 18-19 and 24-26 are computer-readable medium versions, which recite the same limitations as those of the claims 9-10 and 15-17, respectively, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the

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references teach all of the limitations of the above claim, they also teach all of the limitations of claims 18-19 and 24-26, respectively.

13. Claims 3-5, 11-14, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Oldman and further in view of US Patent No. 6,148,438 to Schmit (hereinafter "Schmit").

Claim 3:

The rejection of claim 2 is incorporated. Neither APA nor Oldman explicitly discloses *the selected driver is split into user mode and kernel mode instructions*.

However, in an analogous art, Schmit discloses *the selected driver is split into user mode and kernel mode instructions* (e.g., col.4: 14-28).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Schmit into that of APA and Oldman. One would have been motivated to do so to enable use of objects which comprise virtual function sin both user and kernel modes and reduce number of user mode/kernel mode transitions as suggested by Schmit (e.g., col.2: 19-36).

Claim 4:

The rejection of claim 3 is incorporated. Schmit further discloses *the user mode instructions of the selected driver translates from device driver interface instructions to hardware-specific commands* (e.g., col.5: 56-67; col.7: 56-62).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Schmit into that of APA and Oldman. One would have been motivated to do so to as set forth in claim 3 above.

Claim 5:

The rejection of claim 4 is incorporated. APA also discloses *the selected driver writes hardware-specific commands into an operating system-allocated buffer for submission to a scheduler of the hardware's time* (e.g., page 1: 7-13).

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Claim 11:

The rejection of claim 10 is incorporated. Schmit further discloses *the driver program comprises a kernel mode portion provided in an executable form* (e.g., col.4: 29-36).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Schmit into that of APA and Oldman. One would have been motivated to do so to as set forth above.

Claim 12:

The rejection of claim 11 is incorporated. As set forth in claim 2, APA also discloses *the driver program provided in the intermediate language form* (page 2: 24-26). Schmit further discloses *the driver program comprises a user mode portion* as set forth in claim 3 (e.g., col.4: 14-28).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teachings of Schmit into that of APA and Oldman by providing a user mode portion in the intermediate language form. One would have been motivated to do so to enable use of objects which comprise virtual function sin both user and kernel modes and reduce number of user mode/kernel mode transitions as suggested by Schmit (e.g., col.2: 19-36).

Claims 13-14:

Claims 13-14 are method versions, which recite the same limitations as those of the claims 4-5, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claims 13-14.

Claims 20-23:

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Claims 20-23 are computer-readable medium versions, which recite the same limitations as those of the claims 11-14, respectively, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claims 20-23, respectively.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent No. 6,871,350 discloses user mode device driver interface for translating source code from the user mode device driver to be executed in the kernel mode or user mode.

US Patent No. 6,212,574 discloses user mode proxy of kernel mode operations in a computer operating system.

15. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone is (571) 272 8570. The examiner can normally be reached on Monday – Friday from 6:30AM to 3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



TUAN DAM
SUPERVISORY PATENT EXAMINER